

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended): A method for producing a tertiary butyl alcohol by reacting a mixture of C<sub>4</sub> hydrocarbons in which the concentration of isobutylene is 5 to 15% by mass and water in the presence of a cation-exchange resin catalyst and at least one solvent selected from the group consisting of sulfones and organic carboxylic acids by using a catalytic distillation apparatus, wherein the cation-exchange resin catalyst has been swollen with the solvent and has been packed in the reaction portion of the catalytic distillation apparatus.

2. (Original): The method for producing a tertiary butyl alcohol according to claim 1, wherein the solvent is sulfolane, dimethyl sulfone or acetic acid.

3. (Original): The method for producing a tertiary butyl alcohol according to claim 1, wherein the amount of solvent is 0.01 mole or more to 1 mole of isobutylene.

4. (Original): The method for producing a tertiary butyl alcohol according to claim 1, wherein the cation-exchange resin is polystyrenesulfonic acid resin, phenolsulfonic acid resin or perfluorosulfonic acid resin.

5. (Original): The method for producing a tertiary butyl alcohol according to claim 1, wherein the cation-exchange resin is a porous cation-exchange resin.

6-8 (Canceled).